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Government Affairs

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ORIGINAL

October 14,2002

RECEIVED

OCT 15 2002

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

By Hand Delivery

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
The Portals
445 Twelfth Street, S.W.
Washington, D.C. 20554

Re: ***Ex Parte*** Presentation in CC Docket **No. 01-336**
Review **of** the Section **251 Unbundling** Obligations **of**
Incumbent Local Exchange Carriers

CORNING
Discovering Beyond Imagination

Dear Ms. Dortch:

This is to inform you that on Friday, October 11, 2002, a group representing the Fiber to the Home Council ("FTTH-C") met with numerous FCC officials to discuss the above-cited NPRM. The FTTH-C representatives included James Salter, President of FTTH-C and CEO of Atlantic Engineering; Timothy J. Regan, Senior Vice President of Corning Incorporated; Leonard Ray, Acting Chairman, Government Affairs Committee of FTTH-C and Marketing Development Manager of Corning Incorporated; and Stanley G. Fendley, Director of Legislative and Legal Affairs, Corning Incorporated'.

The FTTH-C representatives met with the following FCC officials:

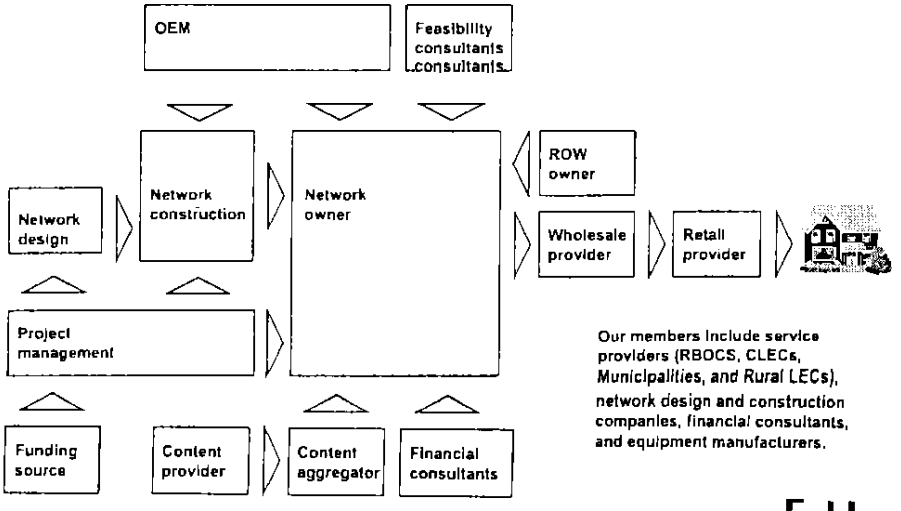
- Robert Pepper, Chief, Plans and Policy
- Christopher Libertelli, Legal Advisor, Office of Chairman Michael K. Powell
- UNE Task Force:
  - Michael Engel, Wireline Competition Bureau, Competition Policy Division
  - Richard Hovey, Office of Engineering and Technology, Network Technology Division
  - Thomas Navin, Wireline Competition Bureau, Competition Policy Division
  - David Shiman, Wireline Competition Bureau, Competition Policy Division

[1] Stanley Fendley participated in only the meetings with the UNE Task Force and with William Maher.

The FTTH Council
Visit us on the web at www.ftthcouncil.org

- Mission:
  - Educate, promote & accelerate FTTH and the resulting quality-of-life enhancements
- Objectives:
  - Supply a consistent and accurate view of FTTH
  - Promote FTTH market development
  - Be recognized by the industry as the FTTH resource
- **72** member companies
- We represent the interests of those interested in FTTH
  - Our members are from every telecommunications group
  - We do not represent any one group

The FTTH Council
Represented in every layer of the FTTH value chain



Our members include service providers (RBOCS, CLECs, Municipalities, and Rural LECs), network design and construction companies, financial consultants, and equipment manufacturers.

Fiber-to-the-Home

Today's true broadband solution

James Salter, President

Leonard Ray Government Relations Committee Chairman

Fiber-to-the-Home Council

Fiber-to-the-Home (FTTH)

Today's true broadband solution

- The FTTH Council
- FTTH history
- Architectures
- Standards update
- Applications
- Cost analysis of access technologies
- The FTTH Council's public policy platform
- Summary

The FTTH Council
72 ***companies - 10 active committees***

- Executive Director, President, and a Board of Directors
- 10 Committees
  - Architecture and Economics
  - Communications
  - Conference
  - Finance & Audit
  - Government Relations
  - Market Segmentation Analysis & Development
  - Management
  - Membership & Nomination
  - Planning
  - Technology

The FTTH Council
*Why **are we here today***

- We are concerned that critics are spreading untruths
  - FTTH is cost prohibitive
  - FTTH is immature
  - FTTH is not happening
  - FTTH is not necessary
- We are concerned that the emergence of FTTH is being eclipsed by the severely polarized and heated debate between the ILECs and CLECs over current-generation broadband
- We have a vision of how to accelerate the realization of the life-enhancing benefits FTTH enables by promoting facilities-based FTTH competition

The FTTH Council
*What we **wish to** show **you***

- FTTH is a viable broadband solution today
  - FTTH is not cost prohibitive, all networks are expensive
  - FTTH is not immature, in fact, it has been around since the 80s
  - FTTH is happening, we just released a list of 50 builds
  - FTTH is necessary and consumers will benefit
- The FTTH Council *is* a serious but grass-roots organization
- We would you to think of us as your…
  - resource on technical issues related to FTTH
  - contact for every player and layer in the FTTH value chain
  - source of information on FTTH

Fiber-to-the-Home (FTTH)
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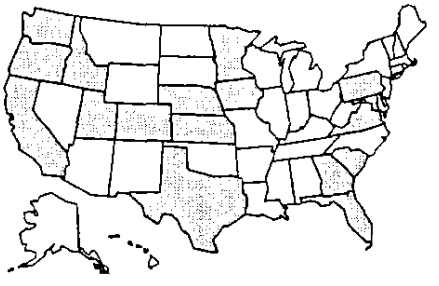
FTTH history
Trials in the 80's led to real deployments in the 90's

- FTTH has been contemplated since fiber was first installed in telecommunications networks in the early 80's
- Several FTTH trials were conducted in the 80's
- However, it wasn't until the late 90's that FTTH really began to accelerate. Largely due to improvements in:
  - Electronics
  - Fiber design
  - Splicing techniques
  - Construction methods
  - Consumer applications
  - Consumer broadband demand

FTTH history
*List of 'US Optical Fiber Communities'**

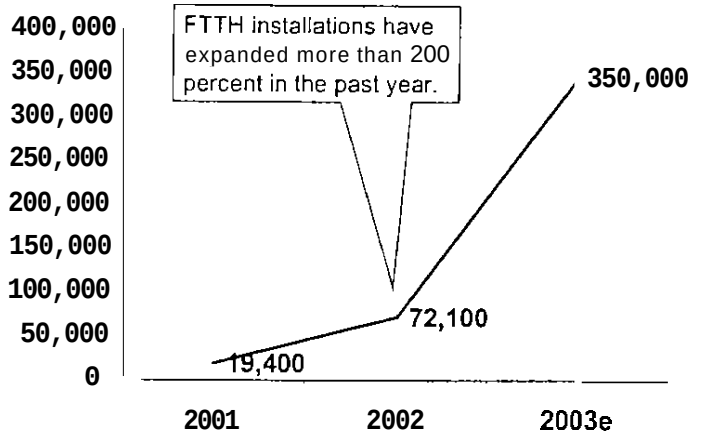


Alberta, MN
Almena **KS**
Avery Ranch TX
Bear Creak, ID
Braemer-Bristow, VA
Burleson, TX
Cambridge. IA
Canyon Gale. TX
Chelan County. WA
Chokio MN
Colorado City CO
Crystal Falls, TX
Daniel Islan, SC
Douglas County, WA
Dunwoody, GA
East Ottertail, MN
Evermore, MN
Grand Lake TX
Grant County. WA
Blair, NE
Guthne Center. IA
Hill City, KS
Norlh Richland TX
Huxely. IA
Issaquah Highlands. WA
Kamas, UT
Kutztown, PA
Lakes on Eldridge, TX
Lansdowne, VA
Laredo, TX
Daytona Beach, FL
Mason County. WA
Morris. MN
Houston. TX (x3)
Norton KS
Osborne. KS
Palo Alto, CA
Poppy Meadows. CA
Prove, **UT**
Roseville. CA
Rye. CO
Sacramenlo, CA
Bluffton, SC
Slater, IA
Broadlands, **VA**
Albertville, MN
Woodburn OR

* many **more** in construction *and* pre-construction phases

FTTH history

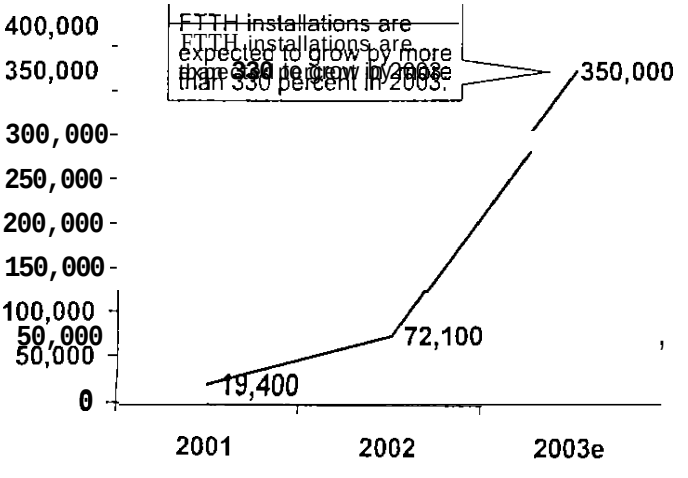
FTTH homes passed in US and Canada



Source: Render, Vanderslice & Associates

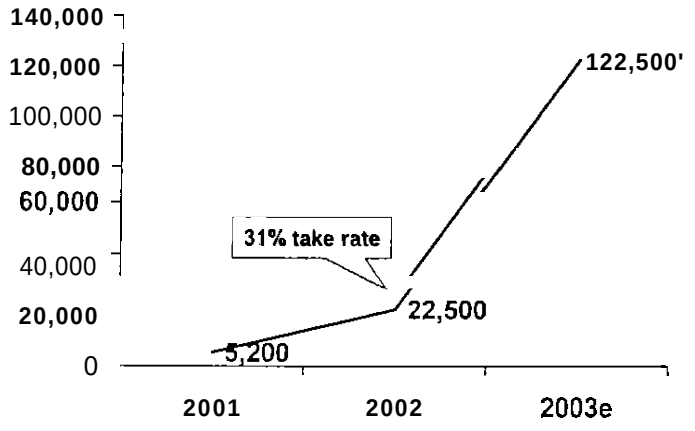
FTTH history

FTTH homes passed in US and Canada



Source: Render, Vanderslice & Associates

FTTH history
FTTH homes connected with active service



Source Render. Vanderslice & Associates FCC Meeting (10/11/02)
13 * FTTH Council analysis of RV&A study

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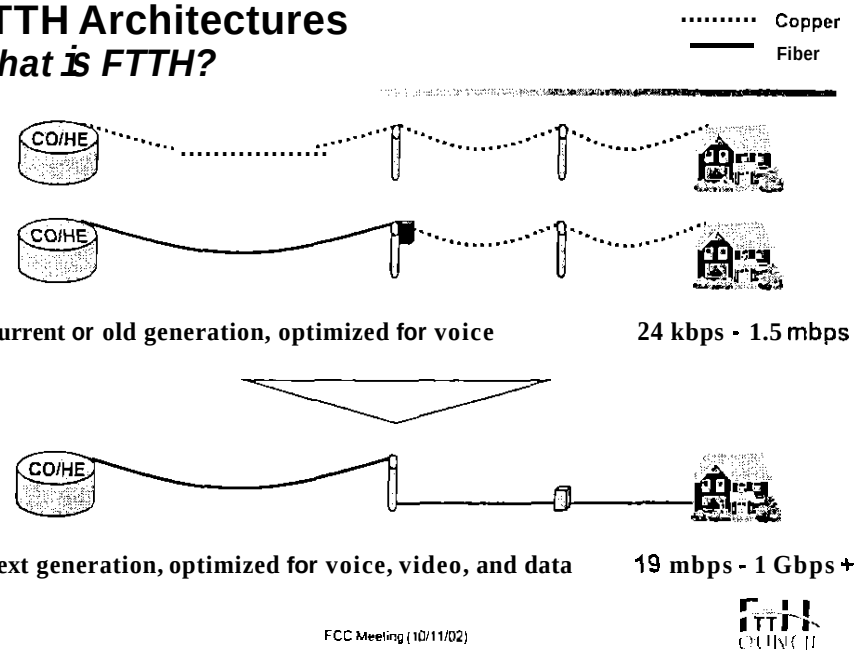
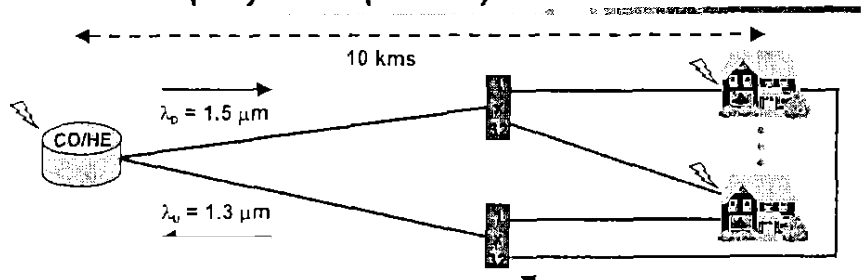
FTTH Architectures
What is FTTH?



FTTH Architectures
Overview of the three basic types

- *Passive Optical Networks (PONs)*
  - Shares fiber optic strands for a portion of the networks distribution
  - Uses optical splitters to separate and aggregate the signal
  - Power required only at the ends
- *Home Run Fiber or Point-to-Point*
  - Subscribers have a dedicated fiber optic strand
  - Uses active or powered nodes to manage signal distribution
- *Hybird PONs*
  - Literal Combination of a Home Run and a PON architecture

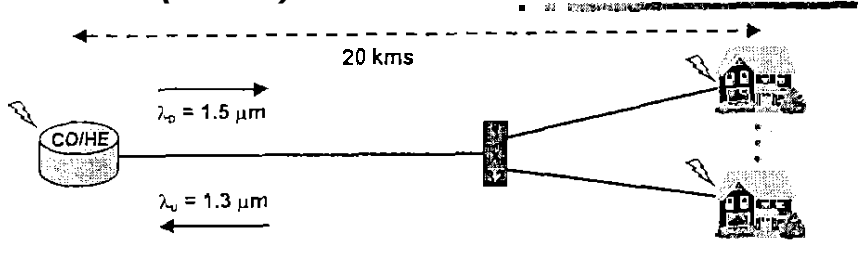
FTTH Architectures - PONs
*Broadband **(RF) PON (BPON)***



- Services
  - Broadcast video - 80 lo 100 channels
  - Voice over RF
  - 10 to 100 Mbps down / 2 to 3 Mbps up shared
- Inexpensive RF electronics
- Fiber & splitter intensive; no formal standard
- Legacy, next-generation architecture

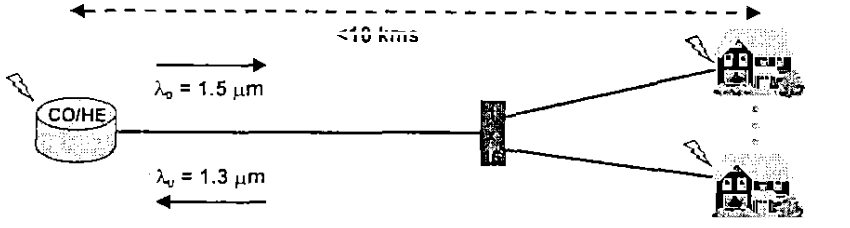
Likely to be cascaded lo overcome analog transmission non-linearities.

FTTH Architectures - PONs
A** TM **PON (APON)



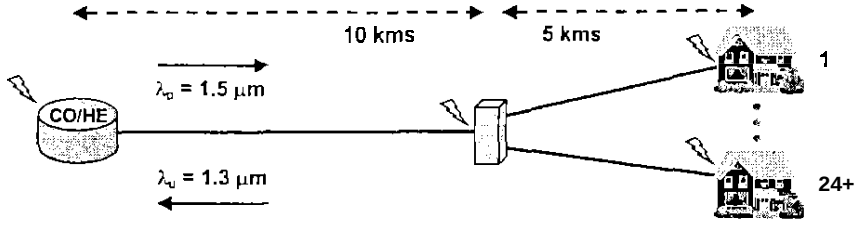
- Services
  - Digital video (with STB) brc dcast video on separate λ
  - Voice over ATM
  - 622 Mbps down / 155 Mbps up shared
- FSAN / ITU G.983 compliant (also called Broadband PON)
- Minimizes fiber & splitter count; expensive electronics

FTTH Architectures - PONs
Ethernet PON (EPON)



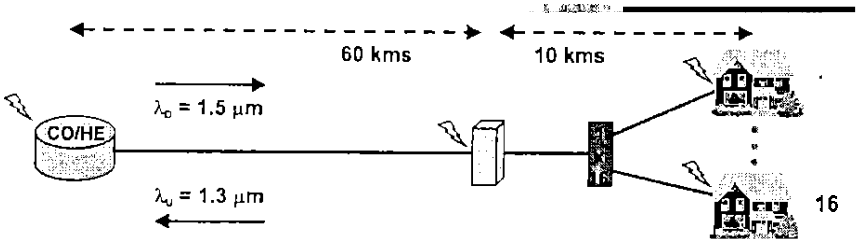
- Services
  - Digital video (with STB) or broadcast video on separate λ
  - Voice over IP
  - 1 Gbps down & up, shared, upgrade to 10 Gbps
- Adds value to home and community; "Wired community"
- BW likely to spawn new applications and services
- Limited range and splitting capability

FTTH Architectures - Home **Run**
Active node architecture (Point-to-Point)



- Services
  - Digital video (with STB), VOD. Interactive TV
  - Voice over IP
  - 1 Gbps down & up, dedicated; upgrade to 10 Gbps
- Ethernet switch needs powering and environmental control
- BW likely to spawn new applications and services
- Architecture works well in MDU setting

FTTH Architectures - Hybrid PONs
Point-to-point-to-PON (also called active PON)



- Services
  - Digital video (with STB) or broadcast video on separate λ
  - 622 Mbps down / 155 Mbps up shared (ATM)
  - 1 Gbps + (Ethernet)
- Primary benefit is the extended reach
- Similar pros and cons to APON

Fiber-to-the-Home (FTTH)
Today's true broadband solution

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Standards update
ITU-T Q2/SG 15 G.983 series

- Only published international standard for FTTH
- Describes a Passive Optical Network carrying ATM traffic and TDMA subscriber access
- Several versions published since October 1998
  - G.983.1 - Basic ATM-PON system
  - G.983.2 - ONT management and control interface
  - G.983.3 - WDM system for enhanced services (i.e. analog video)

Standards update
History and status of ITU FTTH Standards

- Standards drafted by the Full Service Access Network (FSAN), a private working party of service providers and vendors
  - Meeting since 1995
  - Proposals submitted to ITU-T for approval and publication as an accredited standard
- Current projects:
  - Expand bandwidth to 1 Gb/s range
  - ATM or Ethernet
  - Increase network capability (span and split ratio)
  - Improve bandwidth allocation among subscribers
  - Network reliability

Standards update
IEEE 802.3ah - Ethernef in the First Mile (EFM)

- Organized informally via the IEEE 802.3 in Fall 2000
- Chartered as IEEE 802.3ah in Spring 2001
- Develop 1 Gb/s Ethernet access standards including FTTH
  - Point-to-Point (home run)
  - Point-to-Multipoint (PON)
  - Twisted pair standards too
- Publication due Q1 2003

Standards update
IEEE 802.3ah EFM status

- PON PMD based on ITU-T 983 series
- Home run PMD based on Gigabit Ethernet standard
  - Service providers and vendors disagree on exact architecture
  - Likely parallel standards to be developed
- Strong disagreements on copper standard due to incapability of installed plant
  - Copper disagreement threatens to delay entire standard by 12 months or more

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Constrained applications
Applications today are limited by bandwidth

Year	2001	2002-2003	2004-2005	2006
Bandwidth	56 kbps -1 Mbps	400 kbps - 2 Mbps	2 - 80 Mbps	80 Mbps - 1 Gbps
Applications	E-mail Static we browsing Bulletin boards Bill payment Online auctions Instant messaging	VOIP File sharing Data warehousing Supply chain mgt Video conferencing Online gaming	Interactive TV 3D multi-player games HD Television	E books Tele-medicence Distance learning Interactive shopping

Current-generation networks | Next-generation networks required

Source: In-Stat, PONS, April '02

Current generation - evolved applications
Existing consumer broadband products

- Peer-to-Peer Communications
  - Sharing/sending digital entertainment files
  - Local web hosting
  - Distributed computing: INTEL™, SETI@home
- Tele-medicine
  - GE Medical Systems
  - Lemeul Shattuck Hospital
- Digital Still and Video Cameras
  - Nikon Coolpix 990 ™
  - SONY MD Discam™
- Video-on-Demand
  - Intertainer™, MovieFlix Plus™, CinemaNow ™
- Personal Video-Telephony
  - Polycom™, Inetcam inc.™
- Online Gaming
  - Sony Everquest ™
  - Playstation 2, X-Box
- Tele-work
- Distance learning

Next generation - emerging applications
Future consumer broadband producfs

- Education
  - Video lectures on demand
  - Virtual classrooms
  - Parental monitoring
  - Text books on demand
  - Virtual libraries
- Community
  - Online voting
  - Virtual community meetings
- True tele-medicine
  - Constant in-home monitoring
  - Virtual doctor visits
- Entertainment
  - High definition TV
  - Limitless IP digital video
  - True VOD& interactive TV
  - Full graphic multi-player Internet gaming
  - Virtual museums
- Advanced security
- True tele-work
- **Many yet to be imagined applications**

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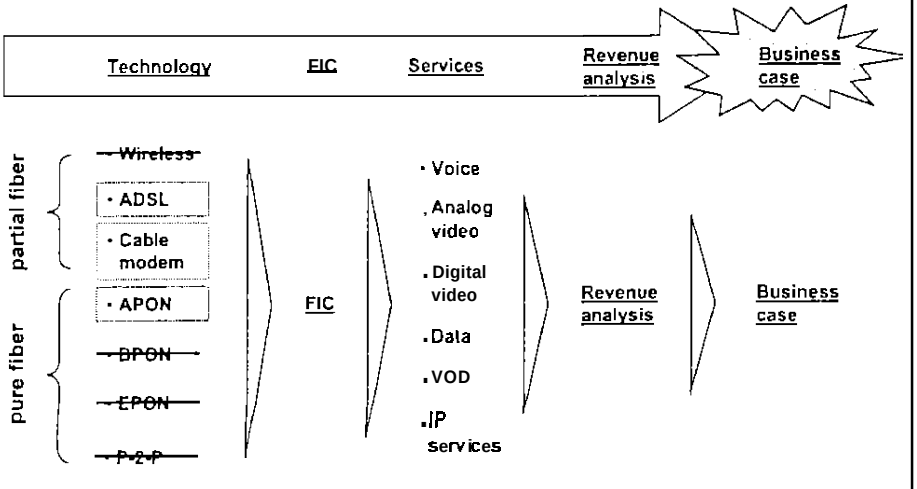
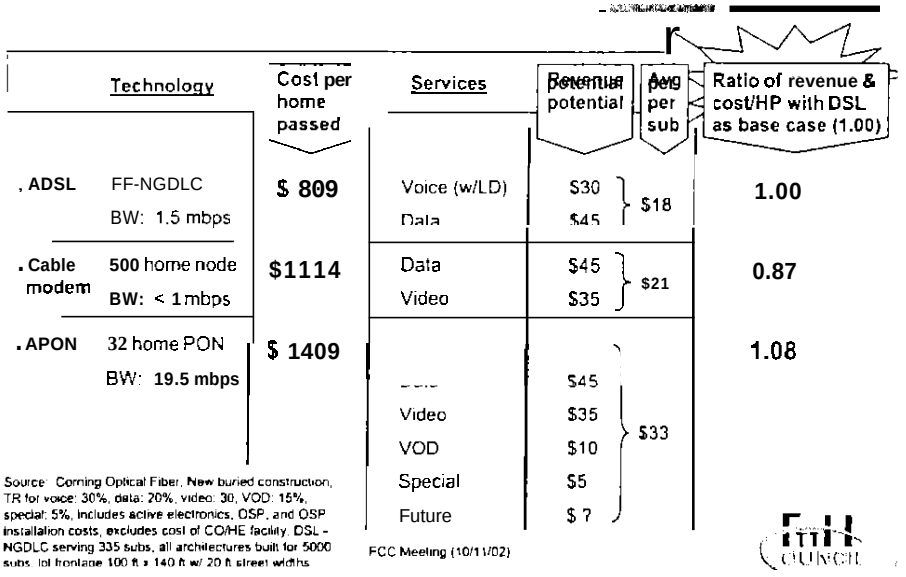
Cost analysis of access technologies
Overview of methodology



Cost analysis of access technologies
Overview of methodology



Technology		Cost per home passed	Services	Revenue potential	Avg per sub	Ratio of revenue & cost/HP with DSL as base case (1.00)
. ADSL	FF-NGDLC BW: 1.5 mbps	$ 809	Voice (w/LD) Data	$30 $45	$18	1.00
. Cable modem	500 home node BW: < 1 mbps	$1114	Data Video	$45 $35	$21	0.87
. APON	32 home PON BW: 19.5 mbps	$ 1409	[illegible] Video VOD Special Future	$45 $35 $10 $5 $?	$33	1.08

Source: Corning Optical Fiber, New buried construction, TR for voice: 30%, data: 20%, video: 30, VOD: 15%, special: 5%, includes active electronics, OSP, and OSP installation costs, excludes cost of CO/HE facility. DSL – NGDLC serving 335 subs, all architectures built for 5000 subs, lot frontage 100 ft x 140 ft w/ 20 ft street widths

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The FTTH Council's Public Policy Platform
Four key points

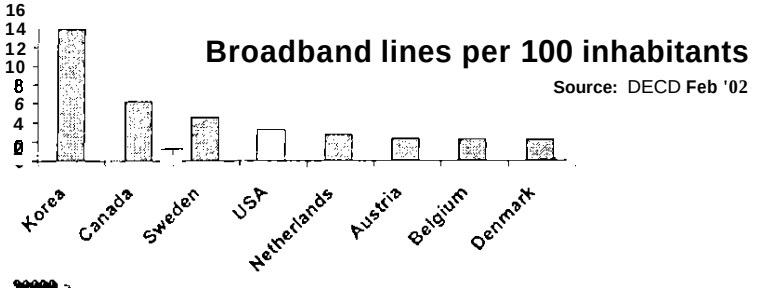
1. The US needs a national broadband policy
2. FTTH networks should be free of unbundling
3. Tax incentives are needed to accelerate FTTH
4. [Any entity should have the right to deploy FTTH

The US Needs a National Broadband Policy

The FTTH Council's public policy platform
The US needs a national broadband policy

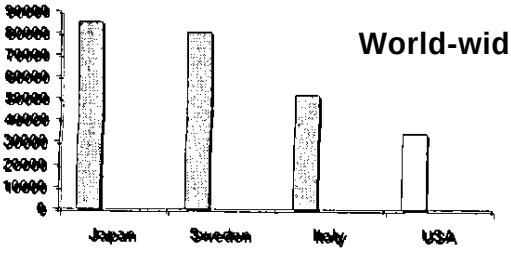
- Need a national broadband policy with the objective of serving 100 million homes with 100 Mbps service **by** 2010
- TechNet supports
- Information Technology Industry Council supports

The FTTH Council's public policy platform
The US a national broadband policy



Broadband lines per 100 inhabitants

Source: DECD **Feb '02**



World-wide FTTH leaders

0302 FTTH estimates

FTTH Networks Should be Free from Unbundling

The FTTH Council's policy platform

FTTH networks should be free from unbundling

Recommendations --

- Relieve FTTH from the unbundling requirement in Section 251(c)(3)
- Pre-empt state authority to change the unbundling requirements
- Regulate voice service, but deregulate broadband service

The FTTH Council's public policy platform
FTTH networks should be free from unbundling

Rationale --

- Lack of access to FTTH will not "impair" a CLEC's ability *to* provide service
- FCC regs (Section 51.317(b)(i)) -- FCC will find impairment if lack of access "materially diminishes" a requesting carrier's ability to provide service, taking into account:
  - Alternative elements outside the incumbent's network
  - Degree of self-provisioning **by the requesting** carrier (emphasis added)
  - Alternative access from a third party

The FTTH Council's public policy platform
FTTH networks should be free from unbundling

- CLECs have demonstrated their ability to "self-provide" FTTH

	Homes Passed by FTTH	Percent of Total
CLECs	44,890	67.0%
Small ILECs	3,600	5 4%
RBOCs	*400*	0 6%
Munis	18,100	27%
Total	66,990	100%

The FTTH Council's public policy platform
FTTH networks should be free from unbundling

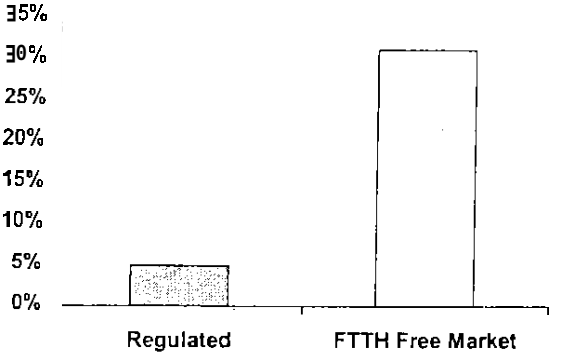
- CLECs have demonstrated their ability to "self-provide" FTTH

The FTTH Council's policy platform
FTTH networks should be free from unbundling

- Other reasons to relieve FTTH from unbundling:
  - Can't unbundle a facility that doesn't exist
  - All carriers are in the same position to compete
  - Will enhance competition between ILECs and CATV
  - Will increase investment 6X according to CSMG study

FTTH networks should be free of regulation
CSMG findings were alarming

- CSMG found our proposal to free FTTH from UNE regulation would create a NPV positive business case to bring FTTH to 31% of all households



Source: CSMG *Assessing the Impact of Regulation on Deployment of FTTH*, April 5 '02

The FTTH Council's public policy platform
Other supporters of Council's recommendations

- Atlantic Engineering Group
- Ciena Corporation
- Iamba Networks, Inc.
- Intertainer, Inc.
- Paceon
- Pirelli Communications Cables and Systems North America
- Eagle Broadband
- ZERO dB

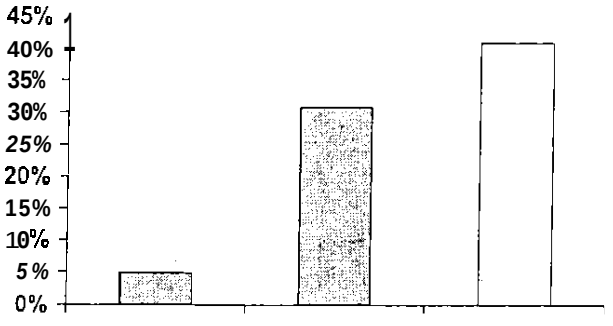
Tax ncentives Wil Accelerate FTTH

The FTTH Council's public policy platform
Tax incentives will accelerate FTTH

- We are supporting the Broadband Internet Access Act
  - The credit would accrue to any service providers deploying "next-generation" broadband services to residences
    - Next-generation is defined as 22 mbps down stream and 5 mbps up stream
    - FTTH meets this classification
  - Provides 20% tax credit for next-generation broadband
    - **All** residents and rural business are eligible
  - Provides 10% tax credit for current generation broadband
    - Rural residents and business are eligible

The FTTH Council's public policy platform
Tax incentives will accelerate FTTH

- CSMG found a 20% tax credit combined with our proposal to free FTTH from **UNE** regulation would create a NPV oositive business case to bring F TH to 41% of all households



Source CSMG tax credit analysis
April 5 02

Any Entity Should Have the Right to Deploy FTTH

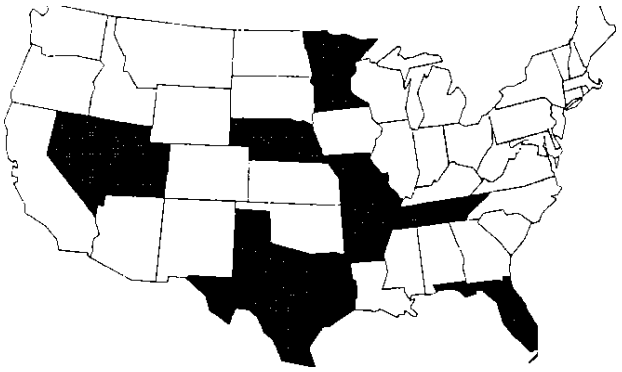
The FTTH Council's public policy platform
Any entity should be able to deploy FTTH

- The TA '96 understood this important principle for true facilities- based competition and consumer choice
- We work closely with the APPA to protect this right

> In General. -- No State or local statue or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.

Source: Section 253(a) of the TA '96

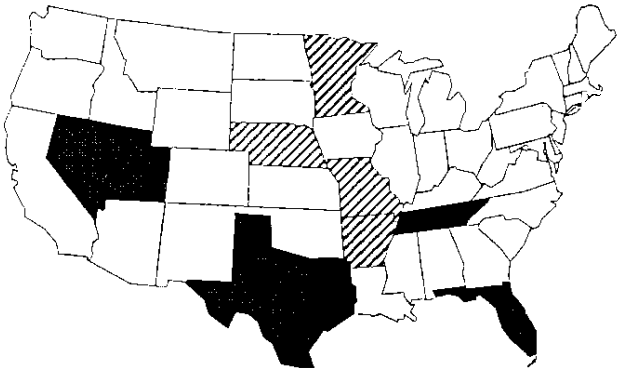
Any entity should be able to deploy FTTH
However, states are blocking some entifies



- **Arkansas**
- **Florida**
- **Missouri**
- **Minnesota**
- **Nebraska**
- **Nevada**
- **Tennessee**
- **Texas**
- **Utah**

- *9* states have laws preventing or hindering municipalities *from* providing telecom services despite the Telecom Act's specific preemption wording in Section 253(a)

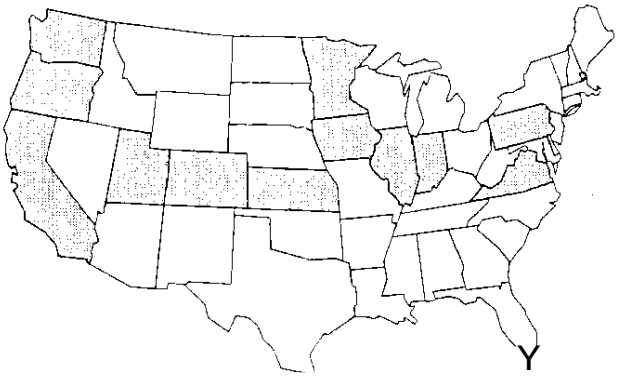
Any entity should be able to deploy FTTH
However, states are blocking some entities



- ~~Arkansas~~
- Florida
- ~~Missouri~~
- ~~Minnesota~~
- ~~Nebraska~~
- Nevada
- **Tennessee**
- **Texas**
- Utah

- 8th Circuit Court ruling vacates a decision by the FCC not to preempt a Missouri law that prevented municipalities from providing telecommunications services or facilities
- Could go to the Supreme Court

Any entity should be able to deploy FTTH
Munis - key catalyst for facilities-based competitior



- 23 *of* the 50 'US Optical Fiber Communities' are *munis*

Munis are expected to grow by 675% over next two years'

.Coming Optical Fiber research, April '02

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Today's true broadband solution

- The FTTH Council
- FTTH history
- Architectures
- Standards update
- Applications
- Cost analysis of access technologies
- The FTTH Council's public policy platform
- Summary

Fiber-to-the-Home (FTTH)
Today's true broadband solution

- FTTH is a viable broadband solution today
  - FTTH is not cost prohibitive
  - FTTH is not immature
  - FTTH *is* happening
  - FTTH **is** necessary and consumers will benefit
- Our proposals will enable and accelerate facilities-based, true broadband competition
  - The US needs a national broadband policy
  - FTTH networks should be free from unbundling
  - Tax incentives will accelerate FTTH
  - Any entity should have the right to deploy FTTH

*www.**ftthcouncil.org***

- Robert Tanner, Wireline Competition Bureau, Competition Policy Division
- Julie Veach, Wireline Competition Bureau, Competition Policy Division
- Elizabeth Yockus, Wireline Competition Bureau, Competition Policy Division
- William Mahcr, Chief, Wireline Competition Bureau
- Jessica Rosenworcel, Legal Counsel, Wireline Competition Bureau
- Daniel Gonzalcz, Senior Legal Advisor, Office of Commissioner Martin

Topics addressed during the course of these meetings are summarized in the attached presentation.

In accordance with Section 1.1206, I am filing two copies of this notice and request that you place it in the record of the proceeding cited above.

If you have any questions concerning this filing, please contact the undersigned.

Respectfully submitted,

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Enclosure

DOCKET NO. 01-336

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